

COMBINED DECLARATION

AND POWER OF ATTORNEY

BAKER & BOT

(Original, Design, National Stage of PCT or CIP Application)

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name; I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled: ESTIMATION METHOD AND SYSTEM FOR COMPLEX SECURITIES USING LOW-DISCREPANCY **DETERMINISTIC SEQUENCES**

the specification of which: (complete (a), (b) or (c) for type of application)

Regular or Design Application

- (a) [] is attached hereto.
- (b) [X] was filed on February 9, 1998 as Application Serial No. 09/020,733 and was amended on (if applicable).

PCT Filed Application Entering National Stage

(c) [] was described and claimed in International Application No. filed and was amended on (if applicable).

Acknowledgment of Review of Papers and Duty of Candor

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information which is material to the patentability of the subject matter claimed in this application in accordance with Title 37, Code of Federal Regulations § 1.56.

[] In compliance with this duty there is attached an information disclosure statement. 37 CFR 1.97.

Priority Claim

I hereby claim foreign priority benefits under Title 35, United States Code, § 119 of any foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign application for patent or inventor's certificate having a filing date before that of the application on which priority is claimed

(complete (d) or (e))

- (d) [X] no such applications have been filed.
- (e) [] such applications have been filed as follows:

PRIOR FOREIGN/	PCT APPLICATION(S) FILED WITHIN 12 MC	ONTHS (6 MONTHS FOR DESIGN) PRIOR TO	SAID APPLICATION		
COUNTRY	APPLICATION NO.	DATE OF FILING (day, month, year)	DATE OF ISSUE (day, month, year)	PRIORITY CLAIMED UNDER 35 USC 119	
				[] YES NO []	
				[] YES NO []	
				[]YES NO []	
ALL FOREIGN AP	PLICATION[S], IF ANY, FILED MORE THAN	12 MONTHS (6 MONTHS FOR DESIGN) PRI	OR TO SAID APPLICATION		
				[] YES NO []	
				[] YES NO []	
				[] YES NO []	



Claim for Benefit of Prior U.S. Provisional Application(s)

I hereby claim the benefit under Title 35, United States Code, § 119(e) of any United States provisional application(s) listed below:

Provisional Application Number	Filing Date
·	

Continuation-In-Part

(complete this part only if this is a continuation-in-part application)

I hereby claim the benefit under Title 35, United States Code, § 120 of any United States application(s) listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States application in the manner provided by the first paragraph of Title 35, United States Code § 112, I acknowledge the duty to disclose information as defined in Title 37, Code of Federal Regulations, § 1.56 which occurred between the filing date of the prior application and the national or PCT international filing date of this application:

08/902,921	July 30, 1997		pending
(Application Serial No.)	(Filing Date)		(Status) (patented, pending, abandoned)
08/285,902	August 4, 1994		abandoned
(Application Serial No.)	(Filing Date)	,	(Status) (patented, pending, abandoned)

Power of Attorney

As a named inventor, I hereby appoint Dana M. Raymond, Reg. No. 18,540; Frederick C. Carver, Reg. No. 17,021; Francis J. Hone, Reg. No. 18,662; Joseph D. Garon, Reg. No. 20,420; Arthur S. Tenser, Reg. No. 18,839; Ronald B. Hildreth, Reg. No. 19,498; Thomas R. Nesbitt, Jr., Reg. No. 22,075; Robert Neuner, Reg. No. 24,316; Richard G. Berkley, Reg. No. 25,465; Richard S. Clark, Reg. No. 26,154; Bradley B. Geist, Reg. No. 27,551; James J. Maune, Reg. No. 26,946; John D. Murnane, Reg. No. 29,836, Henry Tang, Reg. No. 29,705, Robert C. Scheinfeld, Reg. No. 31,300, John A. Fogarty, Jr., Reg. No. 22,348, Louis S. Sorell, Reg. No. 32,439 and Rochelle K. Seide Reg. No. 32,300 of the firm of BAKER & BOTTS, L.L.P., with offices at 30 Rockefeller Plaza, New York, New York 10112, as attorneys to prosecute this application and to transact all business in the Patent and Trademark Office connected therewith

SEND CORRESPONDENCE TO:	DIRECT TELEPHONE CALLS TO:
BAKER & BOTTS, L.L.P. 30 ROCKEFELLER PLAZA, NEW YORK, N.Y. 10112	BAKER & BOTTS, L.L.P. (212) 705-5000

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

FULL NAME OF SOLE	LAST NAME	FIRST NAME	MIDDLE NAME	
OR FIRST INVENTOR	Traub	Joseph	F.	
RESIDENCE & CITIZENSHIP	CITY	STATE or FOREIGN COUNTRY	COUNTRY OF CITIZENSHIP	
	New York	New York	United States	
POST OFFICE	POST OFFICE ADDRESS	CITY	STATE or COUNTRY	ZIP CODE
ADDRESS	Computer Science Department	New York	New York	10027
	Columbia University			
hAY (8,199)	SIGNATURE OF INVENTOR	Cal		
		,		

BAKER & BOT L.P. FILE NO. 20823FWC-B

		. FILE NO.	.20823FWC-B	
FULL NAME OF SECOND	LAST NAME	FIRST NAME	MIDDLE NAME	
OINT INVENTOR, IF ANY	Paskov	Spassimir		
RESIDENCE & CITIZENSHIP	CITY	STATE or FOREIGN COUNTRY	COUNTRY OF CITIZEN	ISHIP
	Scarsdale	New York	Bulgaria	
PCST OFFICE	POST OFFICE ADDRESS	CITY	STATE or COUNTRY	ZIP CODE
ADDRESS	6 Doris Drive	Scarsdale	New York	10583
DATE .	SIGNATURE OF INVENTOR		110W TOIR	110505
	÷			
FULL NAME OF THIRD	LAST NAME	FIRST NAME	MIDDLE NAME	<u> </u>
JOINT INVENTOR, IF ANY	Vanderhoof	Irwin	F.	
RESIDENCE & CITIZENSHIP	CITY	STATE or FOREIGN COUNTRY	COUNTRY OF CITIZEN	SHIP
	Towaco	New Jersey	United States	
POST OFFICE	POST OFFICE ADDRESS	CITY	STATE or COUNTRY	ZIP CODE
ADDRESS	18 Two Bridges Road	Towaco	New Jersey	07082
DATE	SIGNATURE OF INVENTOR	12011400	Tion Joiney	10/002
	DISTRICTED OF MYTEMATOR			
FULL NAME OF FOURTH	LAST NAME	FIRST NAME	MIDDLE NAME	
JOINT INVENTOR, IF ANY	Papageorgiou		MIDDLE IMMINE	
RESIDENCE & CITIZENSHIP	CITY	Anargyros STATE or FOREIGN COUNTRY	COUNTRY OF OWNER	CUID
ALSIDENCE & CHIZENSHIP	New York	New York	COUNTRY OF CITIZEN	PHIL
POOT OFFICE	POST OFFICE ADDRESS		Greece	1
POST OFFICE ADDRESS		CITY	STATE or COUNTRY	ZIP CODE
	Computer Science Department	New York '	New York	10027
	Columbia University			
April of UNB	SIGNAFURE OF DEVENTOR			
FULL NAME OF FIFTH IOINT INVENTOR, IF ANY	LAST NAME* / / /	FIRST NAME	MIDDLE NAME	
RESIDENCE & CITIZENSHIP	CITY	STATE or FOREIGN COUNTRY	COUNTRY OF CITIZEN	SHIP
POST OFFICE ADDRESS	POST OFFICE ADDRESS	СІТУ	STATE or COUNTRY	ZIP CODE
DATE	SIGNATURE OF INVENTOR	<u> </u>		<u> </u>
EUL I NAME OF CIVITY	I ACT NAME	EIDCT NAME	I mprimaria	
FULL NAME OF SIXTH JOINT INVENTOR, IF ANY	LAST NAME	FIRST NAME	MIDDLE NAME	
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RESIDENCE & CITIZENSHIP	CITY	STATE or FOREIGN COUNTRY	COUNTRY OF CITIZEN	SHIP
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DATE	SIGNATURE OF INVENTOR			<u> </u>
FULL NAME OF SEVENTH IOINT INVENTOR, IF ANY	LAST NAME	FIRST NAME	MIDDLE NAME	
RESIDENCE & C. TIZENSHIP	CITY	STATE or FOREIGN COUNTRY	COUNTRY OF CITIZEN	SHIP
	POST OFFICE ADDRESS	CITY	STATE or COUNTRY	ZIP CODE
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Check proper box(es) for any added page(s) forming a part of this declaration

L]	Signature f	or ninth ar	id subsequen	t joint inventors.	Number o	of pages added	l
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[] Signature by administrator(trix), executor(trix) or legal representative for deceased or incapacitated inventor.

Number of pages added _______.

^[] Signature for inventor who refuses to sign, or cannot be reached, by person authorized under 37 CFR 1.47.



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30 ROCKEFELLER PLAZA, NEW YORK, N.Y. 10112	(212) 705-5000

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OR FIRST INVENTOR	Traub	Joseph	F.	
RESIDENCE & CITIZENSHIP	CITY	STATE or FOREIGN COUNTRY	COUNTRY OF CITIZEN	SHIP
	New York	New York	United States	
POST OFFICE	POST OFFICE ADDRESS	CITY	STATE or COUNTRY	ZIP CODE
ADDRESS	Computer Science Department Columbia University	New York	New York	10027
DATE	SIGNATURE OF INVENTOR		•	

FULL NAME OF SECOND	LAST NAME	FIRST NAME	MIDDLE NAME		
JOINT INVENTOR, IF ANY	Paskov	Spassimir			
RESIDENCE & CITIZENSHIP	CITY	STATE or FOREIGN COUNTRY	COUNTRY OF CITIZEN	ISHIP	
	Scarsdale	New York	Bulgaria		
POST OFFICE	POST OFFICE ADDRESS	CITY	STATE or COUNTRY ZIP CO		
ADDRESS	6 Doris Drive	Scarsdale	New York	10583	
DATE	SIGNATURE OF INVENTOR	1	10303		
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FULL NAME OF THIRD	LAST NAME	FIRST NAME	MIDDLE NAME		
JOINT INVENTOR, IF ANY	Vanderhoof	Irwin /	F.		
RESIDENCE & CITIZENSHIP	CITY	STATE or FOREIGN COUNTRY	COUNTRY OF CITIZEN	SHIP	
	Towaco	New Jersey	United States		
POST OFFICE	POST OFFICE ADDRESS	CITY	STATE or COUNTRY	ZIP CODE	
ADDRESS	18 Two Bridges Road	Towaco	New Jersey	07082	
DATE	SIGNATURE OF INVENTOR				
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FULL NAME OF FOURTH	LAST NAME	FIRST NAME	MIDDLE NAME		
JOINT INVENTOR, IF ANY	Papageorgiou	Anargyros			
RESIDENCE & CITIZENSHIP	CITY	STATE or FOREIGN COUNTRY	COUNTRY OF CITIZEN	SHIP	
	New York	New York	Greece		
POST OFFICE	POST OFFICE ADDRESS	CITY	STATE or COUNTRY	ZIP CODE	
ADDRESS	Computer Science Department	New York '	New York	10027	
	Columbia University				
DATE	SIGNATURE OF INVENTOR		. I	1	
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FULL NAME OF FIFTH	LAST NAME	FIRST NAME	MIDDLE NAME		
FULL NAME OF FIFTH JOINT INVENTOR, IF ANY	LAST NAME	FIRST NAME	MIDDLE NAME		
	LAST NAME CITY	FIRST NAME STATE or FOREIGN COUNTRY	MIDDLE NAME COUNTRY OF CITIZEN	SHIP	
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[]	Signati	re for	ninth	and	subsequent	joint inventors.	Number of	of pages added	
							_		

[] Signature by administrator(trix), executor(trix) or legal representative for deceased or incapacitated inventor. Number of pages added

^[] Signature for inventor who refuses to sign, or cannot be reached, by person authorized under 37 CFR 1.47.



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08/285,902	August 4, 1994	abandoned
(Application Serial No.)	(Filing Date)	(Status) (patented, pending, abandoned)

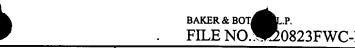
Power of Attorney

As a named inventor, I hereby appoint Dana M. Raymond, Reg. No. 18,540; Frederick C. Carver, Reg. No. 17,021; Francis J. Hone, Reg. No. 18,662; Joseph D. Garon, Reg. No. 20,420; Arthur S. Tenser, Reg. No. 18,839; Ronald B. Hildreth, Reg. No. 19,498; Thomas R. Nesbitt, Jr., Reg. No. 22,075; Robert Neuner, Reg. No. 24,316; Richard G. Berkley, Reg. No. 25,465; Richard S. Clark, Reg. No. 26,154; Bradley B. Geist, Reg. No. 27,551; James J. Maune, Reg. No. 26,946; John D. Murnane, Reg. No. 29,836, Henry Tang, Reg. No. 29,705, Robert C. Scheinfeld, Reg. No. 31,300, John A. Fogarty, Jr., Reg. No. 22,348, Louis S. Sorell, Reg. No. 32,439 and Rochelle K. Seide Reg. No. 32,300 of the firm of BAKER & BOTTS, L.L.P., with offices at 30 Rockefeller Plaza, New York, New York 10112, as attorneys to prosecute this application and to transact all business in the Patent and Trademark Office connected therewith

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I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

DATE	SIGNATURE OF INVENTOR			
POST OFFICE ADDRESS	POST OFFICE ADDRESS Computer Science Department Columbia University	New York	STATE of COUNTRY New York	ZIP CODE 10027
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FULL NAME OF SOLE OR FIRST INVENTOR	LAST NAME Traub	FIRST NAME Joseph	MIDDLE NAME F.	



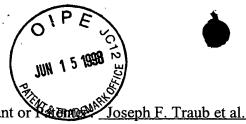
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DATE / 1 1 - 0/	SIGNATURE OF INVENTOR			.1	
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IOINT INVENTOR, IF ANY	Papageorgiou	Anargyros			
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	Columbia University	I TOW I OIK	INCW TOIR		
DATE	SIGNATURE OF INVENTOR	<u> </u>		1	
VAIE	SIGNATURE OF INVENTOR				
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Check proper box(es) for any added page(s) forming a part of this declaration

[]	Signature for	ninth and su	ibsequent joint	inventors. I	Number of	pages added	·
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^[] Signature by administrator(trix), executor(trix) or legal representative for deceased or incapacitated inventor. Number of pages added _

^[] Signature for inventor who refuses to sign, or cannot be reached, by person authorized under 37 CFR 1.47.



Attorney's Docket No. A29823FWC-B Baker & Botts, L.L.P.

Applicant or Reference

Serial or Patent No.: 09/020,733 Filed or Issued: February 9, 1998

For: PORTFOLIO STRUCTURING USING LOW-DISCREPANCY DETERMINISTIC SEQUENCES

VERIFIED STATEMENT (DECLARATION) CLAIMING SMALL ENTITY STATUS (37 CFR 1.9(f) and 1.27(d)) - NONPROFIT ORGANIZATION

I hereby declare that I am an official empowered to act on behalf of the nonprofit organization identified below:
NAME OF ORGANIZATION Columbia University
ADDRESS OF ORGANIZATION New York, NY 10027
TYPE OF ORGANIZATION
 [X] UNIVERSITY OR OTHER INSTITUTION OF HIGHER EDUCATION [] TAX EXEMPT UNDER INTERNAL REVENUE SERVICE CODE]26 USC 501(a) and 501(c)(3)) [] NONPROFIT SCIENTIFIC OR EDUCATIONAL UNDER STATUTE OF STATE OF THE UNITED STATES OF AMERICA (NAME OF STATE) (CITATION OF STATUTE) [] WOULD QUALIFY AS TAX EXEMPT UNDER INTERNAL REVENUE SERVICE CODE (26 USC 501(a) and 501(c)(3)) IF LOCATED IN THE UNITED STATES OF AMERICA [] WOULD QUALIFY AS NONPROFIT SCIENTIFIC OR EDUCATIONAL UNDER STATUTE OF STATE OF THE UNITED STATES OF AMERICA (NAME OF STATE) (CITATION OF STATUTE)
I hereby declare that the nonprofit organization identified above qualifies as a nonprofit organization as defined in 37 CFR 1.9(e) for purposes of paying reduced fees under Section 41(a) and (b) of Title 35, United States Code with regard to the invention entitled PORTFOLIO STRUCTURING USING LOW-DISCREPANCY DETERMINISTIC SEQUENCES by inventor(s) Joseph F. Traub , Spassimir Paskov, Irwin F. Vanderhoof and Anargyros Papageorgiou described in
[] the specification filed herewith [X] Application Serial No. <u>09/020,733</u> , filed <u>February 9, 1998</u> . [] Patent No, issued

I hereby declare that the rights under contract or law have been conveyed to and remain with the nonprofit organization with regard to the above identified invention.



If the rights held by the nonprofit organization are not exclusive, each individual, concern or organization having rights to the invention is listed below* and no rights to the invention are held by any person, other than the inventor, who could not qualify as a small business concern under 37 CFR 1.9(c) or by any concern which would not qualify as a small business concern under 37 CFR 1.9(d) or a nonprofit organization under 37 CFR 1.9(e). *Note: Separate verified statements are required from each named person, concern or organization having rights to the invention averring to their status as small entities. (37 CFR 1.27)

NAME
ADDRESS
[] INDIVIDUAL [] SMALL BUSINESS CONCERN [] NONPROFIT ORGANIZATION
NAME
ADDRESS
[] INDIVIDUAL [] SMALL BUSINESS CONCERN [] NONPROFIT ORGANIZATION
I acknowledge the duty to file, in this application or patent, notification of any change in status resulting in loss of entitlement to small entity status prior to paying, or at the time of paying, the earliest of the issue fee or any maintenance fee due after the date on which status as a small entity is no longer appropriate. (37 CFR 1.28(b))
I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application any patent issuing thereon, or any patent to which this verified statement is directed.
NAME OF PERSON SIGNING Jack M. Granowitz
TITLE IN ORGANIZATION Executive Director, Columbia Innovation Enterprise
ADDRESS OF PERSON SIGNING Columbia University, Engineering Terrace - 363, New York, NY 10027
SIGNATURE Joch M. Framant, DATE Orgal, 15, 1498